

FIG. 1

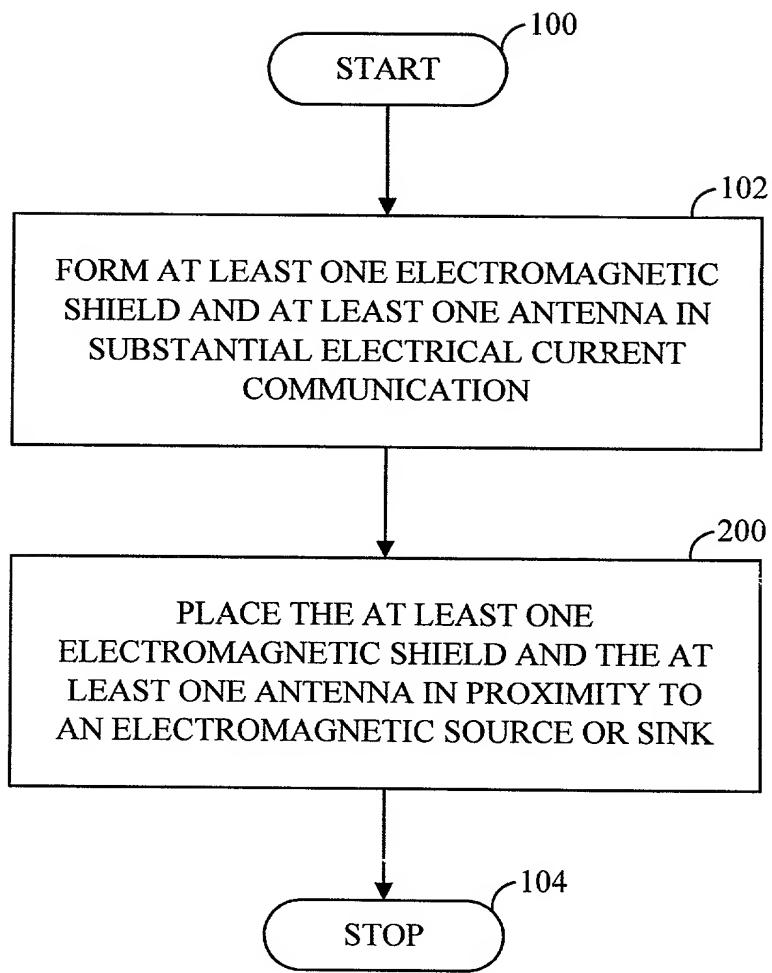


FIG. 2

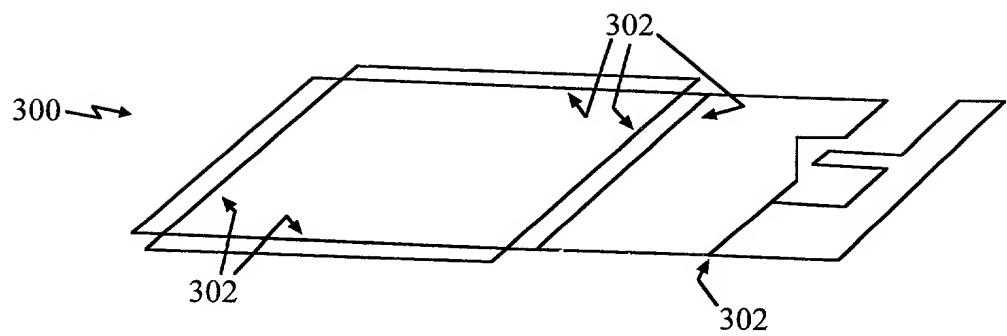


FIG. 3A

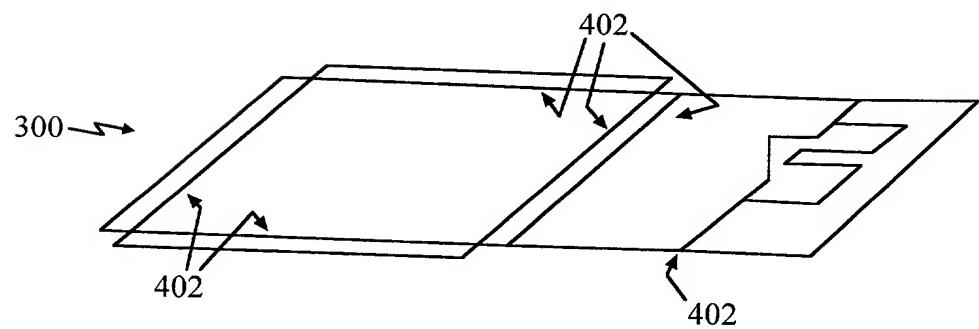


FIG. 4A

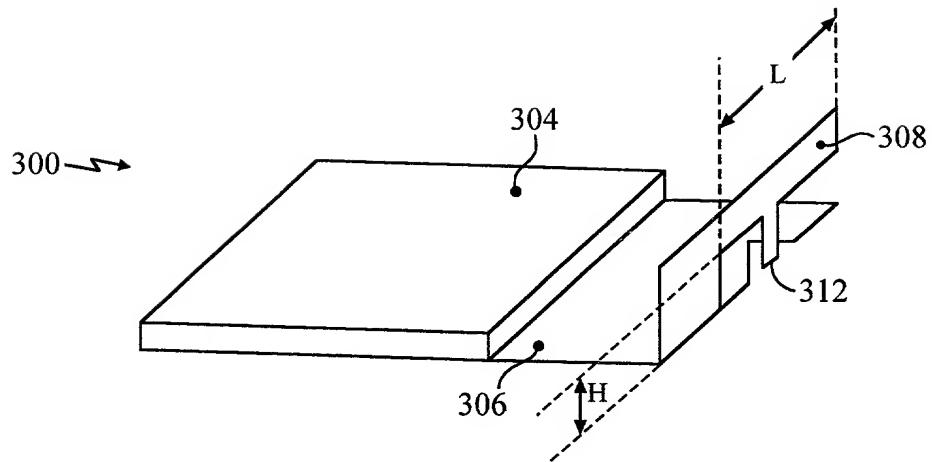


FIG. 3B

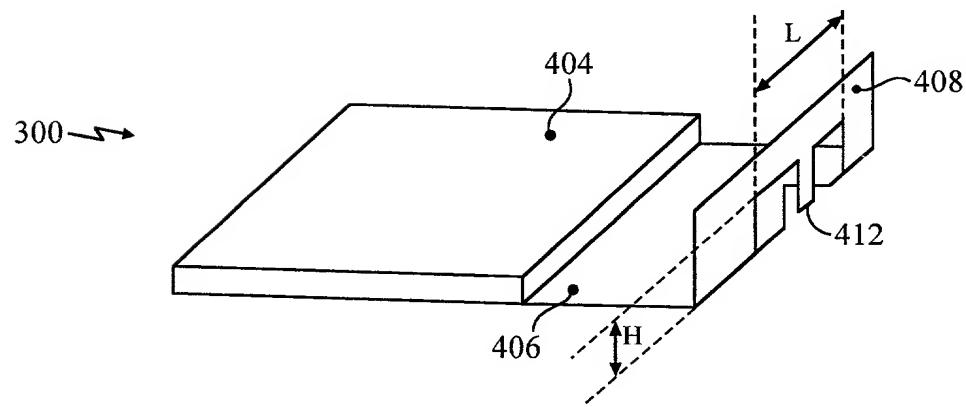


FIG. 4B

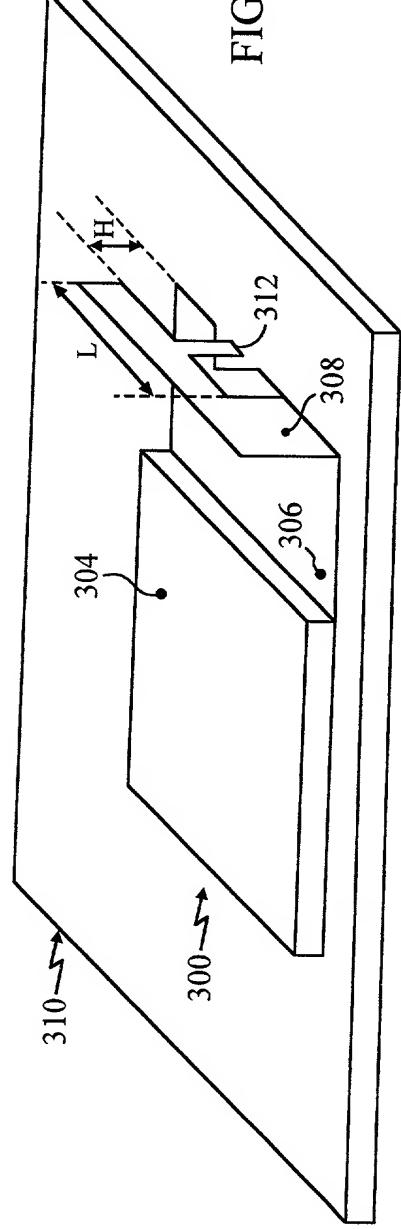


FIG. 3C

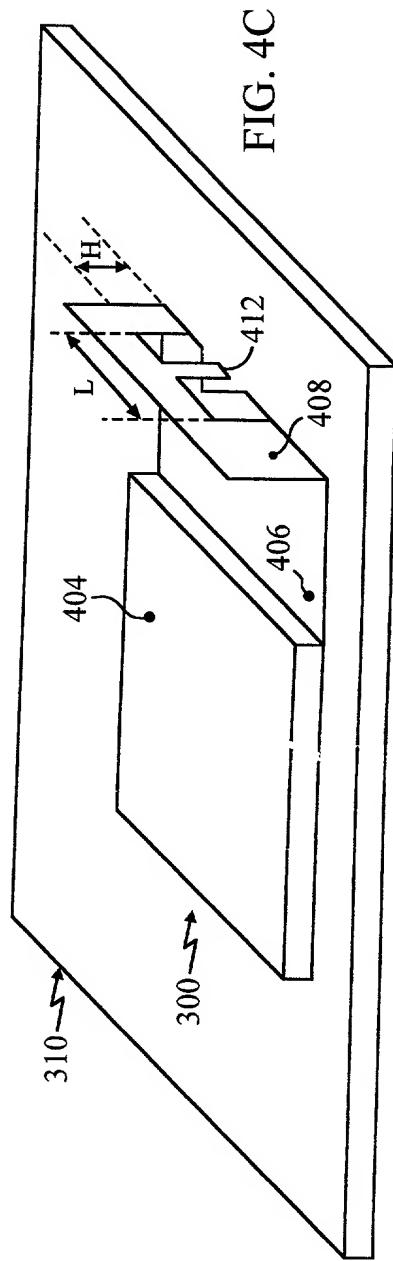


FIG. 4C

FIG. 5A

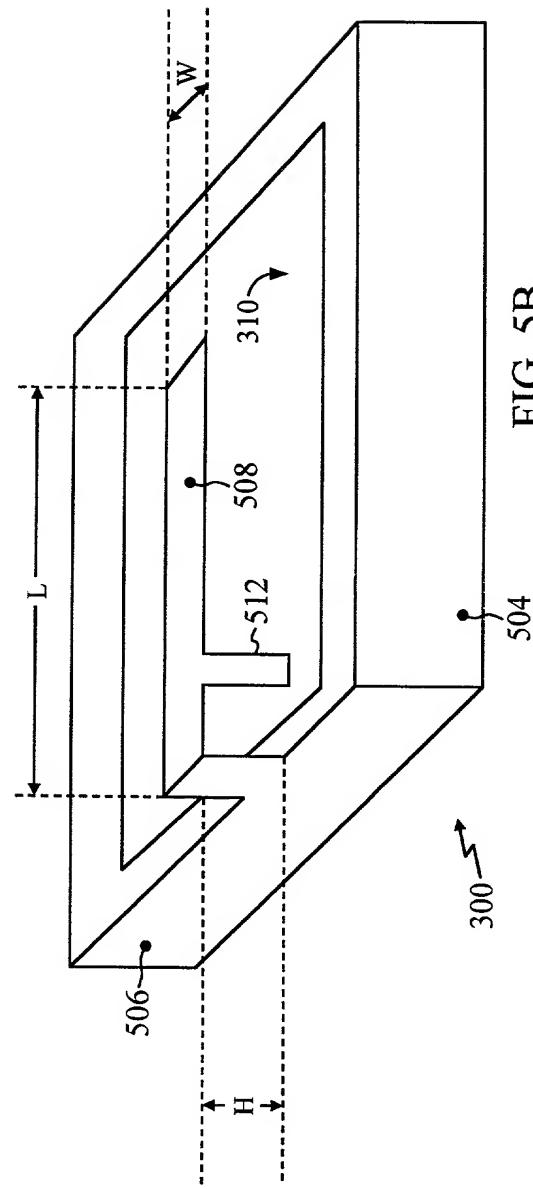
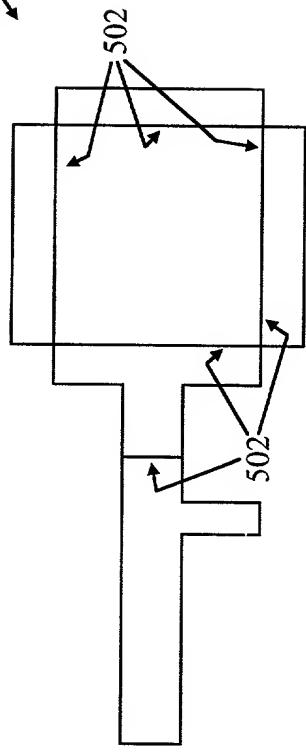


FIG. 5B

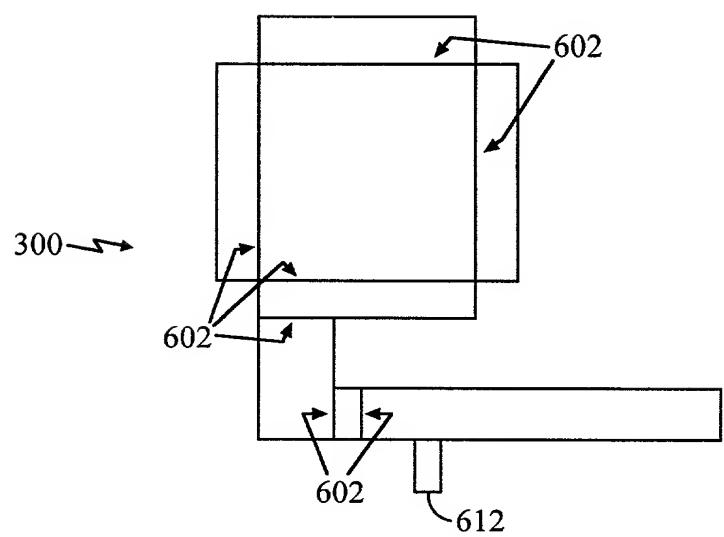


FIG. 6A

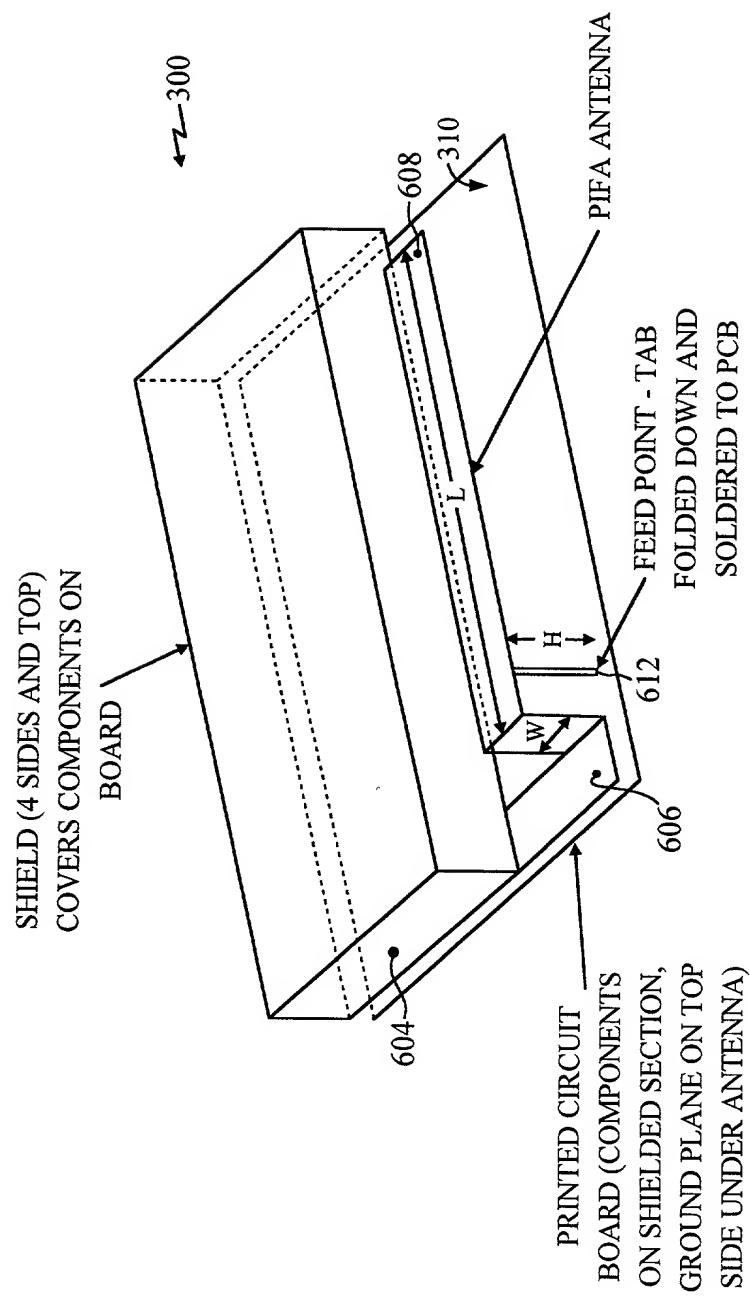
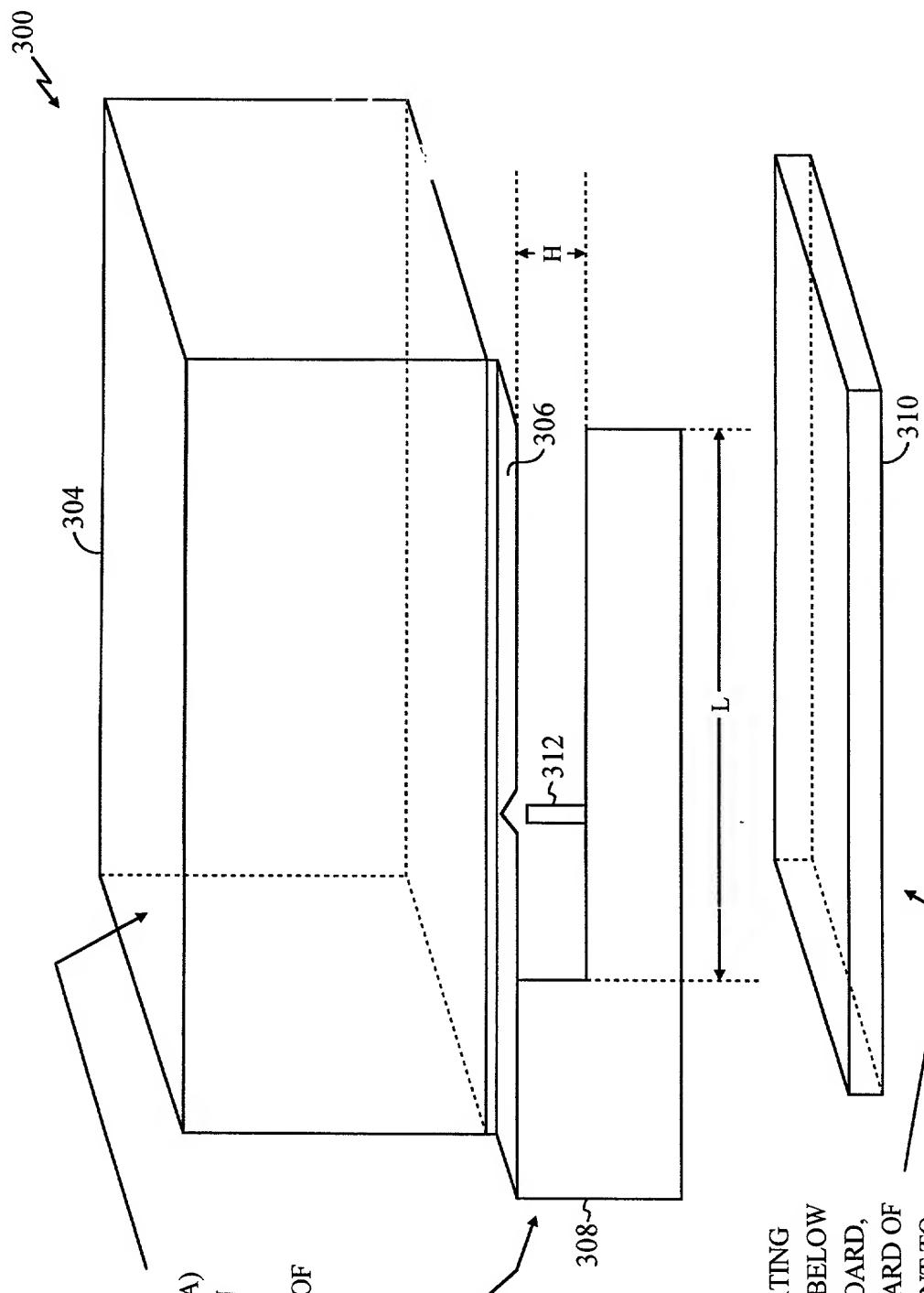


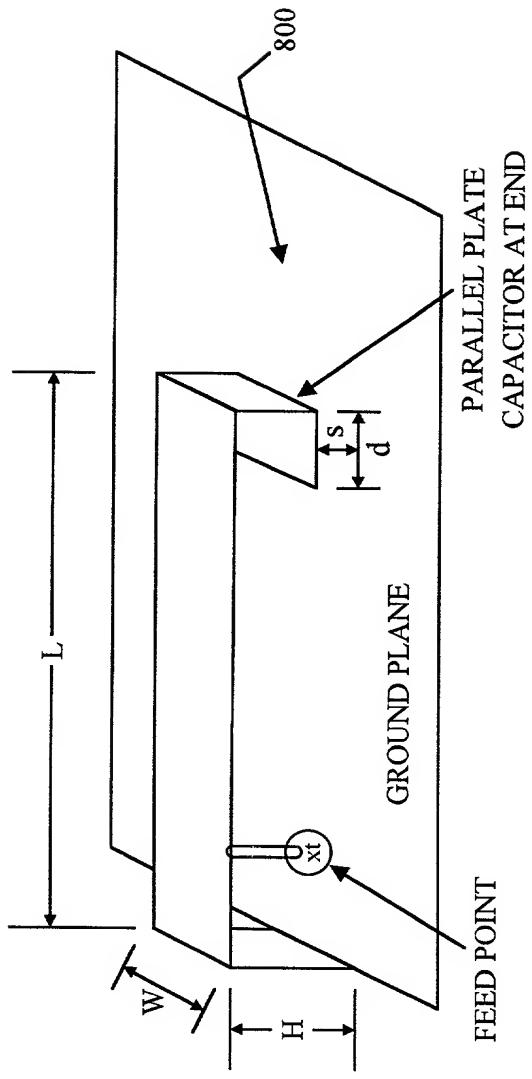
FIG. 6B



HERE, SINCE RADIATING  
ELEMENT RADIATES BELOW  
PRINTED CIRCUIT BOARD,  
PRINTED CIRCUIT BOARD OF  
MATERIAL SUFFICIENT TO  
ACT AS SHIELDING AND/OR  
HAS METAL LAYER

FIG. 7

PIFA WITH INTEGRAL CAPACITOR AT OPEN END



FREQUENCY DETERMINED PRIMARILY BY  $L$  AND CAPACITANCE  
CAPACITANCE DETERMINED BY AREA  $Wxd$  AND HEIGHT ABOVE GROUND  $s$   
BANDWIDTH AND EFFICIENCY INFLUENCED BY  $L$ ,  $W$ , AND  $H$

FIG. 8